REPORT OF THREE CASES OF FRACTURES WITH FATAL TERMINATION.

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CASE I.—FRACTURE OF THE BASE OF THE SKULL; MULTIPLE FRACTURE OF RIBS; FRACTURE OF ACETABULUM; FRACTURE OF HEAD OF FEMUR.

I WAS called, March 20, 1889, to attend a ship carpenter, æt. 53, who had fallen 30 feet from the mast of a vessel into the hold, thereby sustaining certain injuries which, a few days later, made his remains an interesting dead-house study. Twenty minutes after the fall his pulse was 70 and regular, respiration 16 and full; pupils normal in their dimensions and their reactions to light; he was unconscious; there was hæmorrhage from the right ear, but no evidence that cerebral fluid had escaped. There was a lacerated and contused wound over the left parietal eminence, a dorsal dislocation of the femur and fracture of eight ribs—the point of fracture uniformly three inches from the vertebral column. Reduction of the femur was delayed until the patient had partially rallied from the profound shock. While manipulating the femur, crepitus could be felt when certani movements were executed. No diagnostic symptoms of the fracture of the neck were apparent.

The femur was reduced without much difficulty. At the expiration of 24 hours symptoms of cerebral compression developed. The trephine was applied an inch beneath the point of external injury, and several blood clots of considerable size were removed. By a small incision in the dura mater, considerable fluid escaped. Following the operation there was marked improvement; for the first time he was able to talk, made his wants known, and recognized his friends. Late on the third day he died. At the autopsy, a fracture of the base of the skull, on the side opposite the external wound, was found. The line of fracture passed through the petrous portion of the temporal bone and through the sphenoid to the median line, passing through the auditory canal. Yet at no time was there appreciable evidence of the escape of cerebral fluid. The absence of this symptom should not bear as much weight in making a diagnosis as the literature in some quarters would lead us to do.

The line of fracture of the ribs was from within outward and forward. The pleura was extensively lacerated and the lung at one point punctured. The ribs when reduced would not so remain without support.

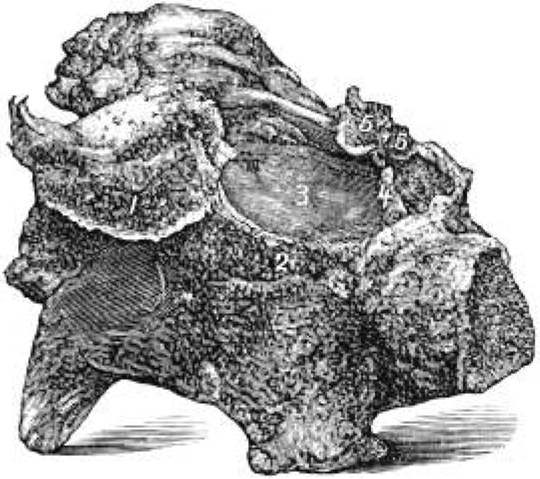

FIG. I.—FRACTURE OF BRIM OF ACETABULUM.

On exposure of the hip joint the acetabular fracture was found to be one half inch in altitude, with a base one-half the circumference of the acetabular brim. The head of the femur was fractured. The fragment corresponded with that part of the head intercepted by a plane passing through it at the junction of the neck, including about one-third of the area of the head. The capsule was extensively lacerated. The soft parts, for a considerable distance outlying the joint, were densely infiltrated with blood and serum.

The segment of the head separated by the fracture was attached to the neck by a small ligamentous band. (See Fig. II.)

The fragment was lying outside the acetabular cavity and hugging the bone. There was no evidence of previous disease of the hip-joint, the femur or the pelvis. The position of the bones indicated that the blow was received over the trochanter major, the head having engaged itself against the side of the acetabulum, thus simultaneously fracturing the deep portion of the head, and the remainder carrying away the brim.

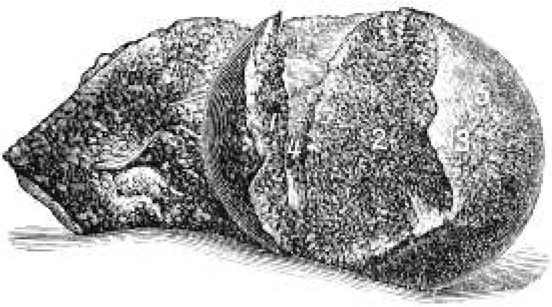

FIG. II.—FRACTURE OF HEAD OF FEMUR.

CASE II.—INTRACAPSULAR FRACTURE OF THE NECK OF THE FEMUR; LONGITUDINAL FRACTURE OF TROCHANTER MAJOR WITH OSTEOPHYTES.

A German, æt. 48, in fair general health, had served in the late war. While pruning a tree, he fell eight feet, alighting on some flagging. He felt considerably hurt, but walked to his home near by. Household remedies were applied to relieve what was considered to be a bruise. The discomfort and pain persisted, and the family physician was called the following day. The physician found only a bruise. There was no shortening, no crepitus, no deformity, and only modification of function. Three examinations were made during the first two weeks; at no time was a fracture apparent. On the fifteenth day the patient felt something "give away" in the hip joint.

A consultation was held, and the symptoms of a fracture of the neck were pronounced There were shortening, eversion and crepitus. He was immediately placed under treatment appropriate for such fracture. In a short time his health began to fail. Albumen was found in the urine in increasing quantity. The patient had never previously consulted a physician for any renal disease. He had had, however, a "kidney trouble" some years before. The patient gradually lost ground and died at the end of 74 days.

By courtesy of the attending physician, I was permitted to make an autopsy. The limb was found four inches shortened and markedly everted. Just below and external to Poupart's ligament, there was a large bony protuberance, which was movable, and about the size of two fists. Hard nodular masses could be easily felt in the region of the trochanter major and the gluteus. These were masses of bony formation—osteophytes—which surrounded and skirted the entire region of bone injury. Their base was near the bone, but easily dissected out. There was a transverse intracapsular fracture of the neck, midway between the head and the trochanter; also a longitudinal fracture of the trochanter major, extending into the shaft of the femur. Scales or plates of bone corresponding to the attachment of muscles along the superior curved line of the ilium were detached and dragged down an inch or more. This condition obtained to such an extent that the superficial muscles were loose and flabby. Some of these pieces were equal in area to a silver half dollar. Although 74 days had elapsed there was no apparent effort at repair; the ends of the fragments were as smooth as if polished There was no callus.

The head of the femur was not altered in contour or in size, with no evidence of any antecedent disease of the bones entering into the formation of the hip joint. The hard bony growth had obeyed no formative law. Some were found between layers of the muscles.

CASE III.—FRACTURE OF SURGICAL NECK OF THE HUMERUS; MINIMUM TREATMENT; DEATH FROM PNEUMONIA AFTER TWENTY DAYS; ABUNDANT AND FIRM CALLUS.

This case presents some points of marked contrast to the one just described.

A German woman, who, for many years, had been in feeble health, had had repeated attacks of pneumonia, and for many years suffered from chronic bronchitis and asthma; and would, at frequent intervals, fall in a fainting spell.

In one of these attacks she fell down stairs, thereby sustaining a fracture of the surgical neck of the humerus. The injured arm was lashed to her side, while the profound shock which ensued was combatted. She rallied slowly. In spite of stimulation and frequent change of position, pneumonia developed in a few days. The fracture received no further attention than the lashing of the arm to the side.

Her general condition was bad. In twenty days she died. The autopsy was interesting, inasmuch as the treatment of the fracture was a secondary consideration. The fragments of bone were in excellent apposition, the line of the fracture oblique. An abundance of callus had been formed, definitive and ensheathing. The union was firm enough to resist considerable bending. During the last few days of her sickness, she was delirious and tossed about in her bed, disregarding the broken arm.

Splints in this case would have been worse than useless. However, the unfortunate complication, causing muscular weakness, prevented the tendency to displacement by muscular contraction.

In the first case we find a rare form of fracture of the head of the femur, complicating a dislocation—a form not mentioned in the standard works on fractures or dislocations. Opportunities for autopsies in cases of dislocations being limited, it is probable that this complication may explain the results in some cases, which can scarcely be accounted for on other grounds.

In the second case we have a marked instance of the support of the capsule to the fragments of an intracapsular fracture, the patient being able to get about by the aid of a cane for 15 days, then the capsule, weakened by stretching and perverted nutrition, suddenly gives away, and marked shortening and loss of function immediately ensued.

The absence of any evidence of repair of the bone within the capsule is not unusual, but the same condition of the fracture of the trochanter may fairly be attributed to the renal lesion. Unfortunately the autopsy was not permitted to extend beyond an examination of the fracture.

In the third case, taking into consideration the age, the feeble health, the complication and the limited treatment, and the fatal termination in 30 days, so good union and coaptation was scarcely to be expected.

These cases emphasize the importance of a careful prognosis.

It is the purpose of this paper simply to present a few points that may be of interest, realizing that the number is too small to draw conclusions.